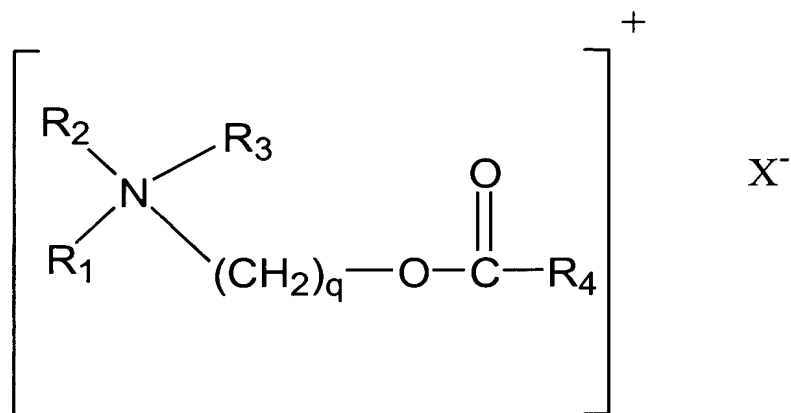


Claims

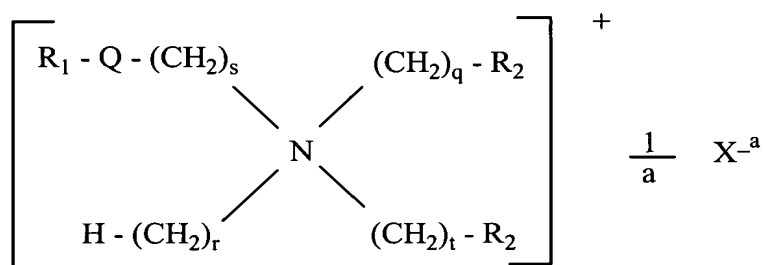
What is claimed is:

- 5
1. A fabric softener composition comprising:
- (a) from 0.01% to 50% by weight of a cationic or non-ionic softening compound;
- 10 (b) at least 0.001%, by weight, of a water dispersible cross-linked cationic polymer derived from the polymerization of from 5 to 100 mole percent of a cationic vinyl addition monomer, from 0 to 95 mole percent of acrylamide, and from 5 to 500 ppm of a difunctional vinyl addition monomer cross-linking agent;
- (c) from 0 to 5% by weight of a non-confined fragrance oil;
- 15 (d) an effective amount of at least one fabric or skin benefiting ingredient encapsulated within a first polymer material to form a polymer encapsulated benefiting ingredient, said encapsulated ingredient being further coated with a cationic polymer and;
- (e) balance water and optionally one or more adjuvant materials
- 20
2. A fabric softening composition in accordance with claim 1 wherein the cationic softening compound is selected from the group consisting of:
- (a) Difatty dialkyl quaternary ammonium compounds;
- (b) Fatty ester quaternary ammonium compounds
- 25 (c) Alkyl imidazolinium compounds
- (d) Fatty amide quaternary ammonium compounds
3. A fabric softening composition in accordance with claim 1 wherein the non-ionic softening compound is selected from the group consisting of fatty amidoamine
- 30
4. A fabric softening composition in accordance with claim 2 wherein said fatty ester quaternary ammonium compound is a biodegradable fatty ester quaternary ammonium compound having the formula:
- 35



wherein R4 represents an aliphatic hydrocarbon group having from 8 to 22 carbon atoms, R₂ and R₃ represent (CH₂)_s-R₅ where R₅ represents an alkoxy carbonyl group containing from 8 to 22 carbon atoms, benzyl, phenyl, (C1-C4) – alkyl substituted phenyl, OH or H; R₁ represents (CH₂)_t R₆ where R₆ represents benzyl, phenyl, (C1-C4) – alkyl substituted phenyl, OH or H; q, s, and t, each independently, represent an integer from 1 to 3; and X⁻ is a softener compatible anion.

5. A fatty softening composition in accordance with claim 2 having a biodegradable fatty ester quaternary ammonium compound derived from the reaction of an alkanol amine and a fatty acid derivative followed by quaternization, said fatty ester quaternary ammonium compound being represented by the formula :



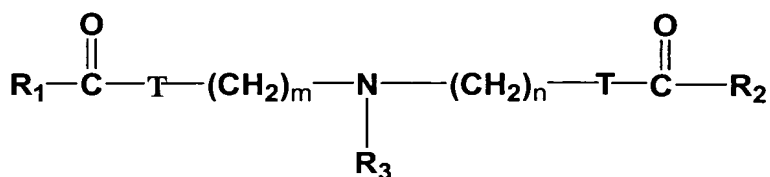
wherein Q represents a carboxyl group having the structure –OCO– or –COO–; R₁ represents an aliphatic hydrocarbon group having from 8 to 22 carbon

atoms; R₂ represents -Q-R₁ or -OH; q, r, s and t, each independently represent a number of from 1 to 3; and X^{-a} is an anion of valence a; and

wherein said fatty ester quaternary ammonium compound is comprised of a distribution of monoester, diester and triester compounds, the monoesterquat compound being formed when each R₂ is -OH; the diesterquat compound being formed when one R₂ is -OH and the other R₂ is -Q-R₁; and the triesterquat compound being formed when each R₂ is -Q-R₁; and wherein the normalized percentage of monoesterquat compound in said fatty ester quaternary ammonium compound is from 28% to 39%; the normalized percentage of diesterquat compound is from 52% to 62% and the normalized percentage of triesterquat compound is from 7% to 14%; all percentages being by weight.

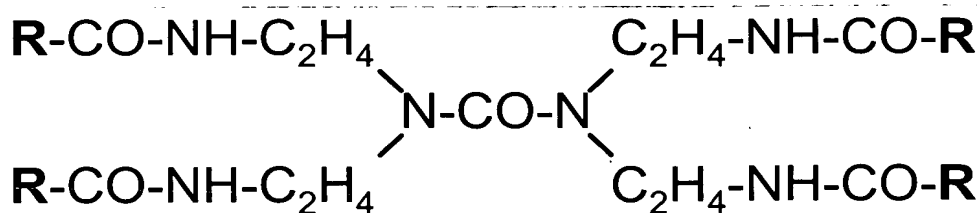
6. A fabric softening composition in accordance with claim 3 wherein said fatty amidoamine has the formula (I or II):

Formula I



wherein R₁ and R₂, independently, represent C₁₂ to C₃₀ aliphatic hydrocarbon groups, R₃ represents (CH₂CH₂O)_pH, CH₃ or H; T represents NH; n is an integer from 1 to 5; m is an integer from 1 to 5 and p is an integer from 1 to 10.

Formula II (Alkyl Carbamidoethyl Urea; R is a C₁₂ to C₂₂ Alkyl Group)

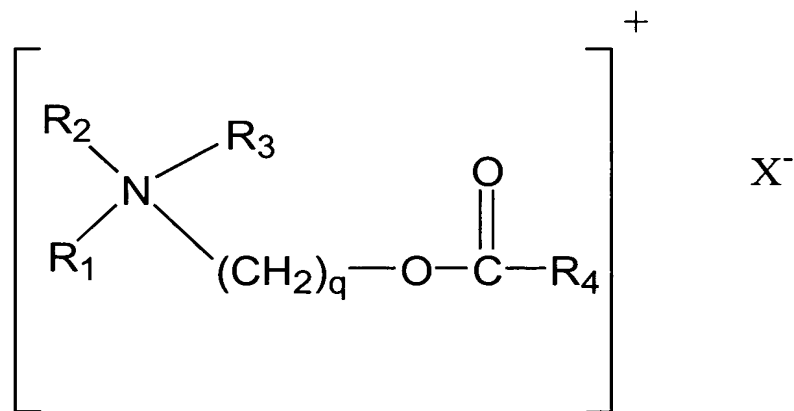


7. A fabric softening composition in accordance with claim 1 wherein said cross-linked cationic polymer is a cross-linked copolymer of a quaternary

ammonium acrylate or methacrylate in combination with an acrylamide comonomer.

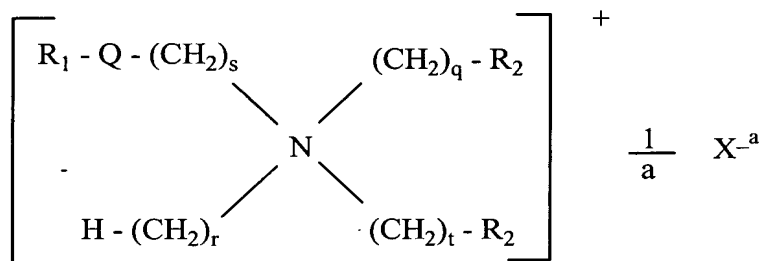
- 5 8. A fabric softening composition in accordance with claim 1 wherein said encapsulating polymer in (d) is selected from the group consisting of a vinyl polymer; an acrylate polymer, melamine formaldehyde polymer, urea formaldehyde polymer and mixtures thereof.
- 10 9. A fabric softening composition in accordance with claim 1 wherein said cationic polymer is a cationic polyamine or selected from polysaccharides, cationically modified starch, cationically modified guar, polysiloxanes, poly diallyl dimethyl ammonium halides, copolymers of poly diallyl dimethyl ammonium chloride, imidazolinium halides.
- 15 10. A fabric softening composition in accordance with claim 9 wherein said polyamine in (d) is a reaction product of a polyamine and an oxirane material.
- 20 11. The composition of claim 10 wherein the oxirane material is selected from the group consisting of (chloromethyl) oxirane, (bromoethyl) oxirane and mixtures thereof.
- 25 12. The composition of claim 1 wherein the fabric or skin beneficiating ingredient is selected from the group consisting of perfumes or fragrance oils, antibacterial agents, vitamins, skin conditioners, UV absorbers and enzymes.
- 30 13. The composition of claim 12 wherein the fabric or skin beneficiating ingredient is a perfume or fragrance oil.
14. The composition of claim 12 wherein the perfume or skin beneficiating ingredient is mixed with a polymer or non-polymeric carrier material or surfactant or solvent or mixtures thereof.
15. A fabric softening composition in accordance with claim 1 which is in the form of a liquid, powder or gel.

16. A fabric softening composition in accordance with claim 1 which is in the form of a fabric softener sheet.
- 5 17. A fabric softening composition in accordance with claim 1 which further contains at least 0.001% of a chelating compound capable of chelating metal ions and selected from the group consisting of amino carboxylic acid compounds, organo aminophosphonic acid compounds and mixtures thereof.
- 10 18. A method of imparting softness to fabrics comprising contacting said fabrics with an effective amount of the fabric softening composition of claim 1.
- 15 19. The method of claim 18 wherein said fabrics are contacted during the rinse cycle of a laundry washing machine or hand wash laundry treatment. The fabrics can be contacted also by a method of direct spraying or padding onto fabrics.
20. A method in accordance with claim 18 wherein said fabric softening compound is a fatty ester quaternary ammonium compound.
- 20 21. A method in accordance with claim 20 wherein said fatty ester quaternary ammonium compound has the formula



wherein R₄ represents an aliphatic hydrocarbon group having from 8 to 22 carbon atoms, R₂ and R₃ represent (CH₂)_s-R₅ where R₅ represents an alkoxy carbonyl group containing from 8 to 22 carbon atoms, benzyl, phenyl, (C1-C4) – alkyl substituted phenyl, OH or H; R₁ represents (CH₂)_t R₆ where R₆ represents benzyl, phenyl, (C1-C4) – alkyl substituted phenyl, OH or H; q, s, and t, each independently, represent an integer from 1 to 3; and X⁻ is a softener compatible anion.

22. A method in accordance with claim 19 wherein the fatty ester quaternary ammonium compound is derived from the reaction of an alkanol amine and a fatty acid derivative followed by quaternization, said fatty ester quaternary ammonium compound being represented by the formula :



wherein Q represents a carboxyl group having the structure –OCO- or –COO-; R₁ represents an aliphatic hydrocarbon group having from 8 to 22 carbon atoms; R₂ represents –Q-R₁ or –OH; q, r, s and t, each independently represent a number of from 1 to 3; and X^{-a} is an anion of valence a; and wherein said fatty ester quaternary ammonium compound is comprised of a distribution of monoester, diester and triester compounds, the monoesterquat compound being formed when each R₂ is –OH; the diesterquat compound being formed when one R₂ is –OH and the other R₂ is –Q-R₁; and the triesterquat compound being formed when each R₂ is –Q-R₁; and wherein the normalized percentage of monoesterquat compound in said fatty ester quaternary ammonium compound is from 28% to 39%; the normalized percentage of diesterquat compound is from 52% to 62% and the normalized

percentage of triesterquat compound is from 7% to 14%; all percentages being by weight.

- 5 23. A method in accordance with claim 18 wherein said fabric or skin
 beneficiating ingredient is a perfume or fragrance oil.
24. A method in accordance with claim 23 wherein said encapsulating polymer for
 said perfume or fragrance oil is selected from the group consisting of a vinyl
10 polymer; an acrylate polymer, melamine formaldehyde polymer, urea
 formaldehyde polymer and mixtures thereof.